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ABSTRACT

This paper states that there are two fundamental reasons for the comparative absence of computer use for parks and recreation at the present time. These are (1) lack of clear cut cost justification and (2) reluctance on the part of recreation professionals to accept their role as managers and, consequently, to utilize modern management tools. The paper attempts to describe the most effective use of the computer and telecommunication technologies for the leisure service provider. It seeks to make the part and recreation professional recognize that the ultimate effective use of the technology will be in the hands of those professionals who combine a basic understanding of their own profession with that of the technology itself. The paper contains a primer on computers for the recreation/park professional. A section on the primary applications of computer technology to recreation and parks is followed by examples of specific application to these areas. More detailed examples are appended. (Author/DDO)

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THE HUMANISTIC DUO: THE PARK/RECREATION PROFESSIONAL AND THE COMPUTER

(Computer - Can I Use It?)

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INTRODUCTION

The use of computers for the park and recreation agencies is barely in its infancy. Despite the fact that some of the most sophisticated and advanced computer systems can be found in a few select recreation service providers (e.g. airline reservation systems, recreation vehicle manufacturing systems), 99% of all park and recreation professionals are totally lacking in any understanding of how to utilize the vast potential of the computer and telecommunications technologies for the operation and management of their organizations. Survey after survey indicates an absence of computer use in the park and recreation functions. The few applications already designed exhibit minimal understanding of the true potential of the computer technology for the profession. They are based on the wrong design principle, namely "let the computer do what we are doing today, only faster and cheaper." While this is one of a number of legitimate systems concepts, the most important design principle should be "the computer permits the recreation and park professional to do that which heretofore has been impossible."

There are two fundamental reasons for the comparative absence of computer use for parks and recreation: (1) lack of clear cut cost justification, and (2) reluctance of recreation professionals to accept their role as managers and as a result, utilize modern management tools.

Cost Justification: Computers have been applied primarily to functions that have a large amount of paperwork and recordkeeping. In government, this has resulted in utilization of computers in such departments as finance, education and public utilities. The justification for computer use has been COST DISPLACEMENT: savings equal/exceed computer system costs.

In terms of the comparative priorities of the major organizations requiring computers, parks and recreation have not been viewed as unusually large paperwork/recordkeeping agencies. Thus, very few organizations have been able to "justify" use of computers for recreation and parks.

The cost-justification process presents a paradox: finance-oriented computer analysts, with no understanding of the profession, study park and recreation agencies and see very little operational/economical justification for computer-use; the recreation/prak professional, with no understanding of the computer technology, is unaware of the vast potential of computers to open up new, creative recreation/park vistas that increase a community's 'bang for the tax dollar' some five-fold. Our nation suffers from this paradox; park and recreation computer use is practically non-existant.

Managerial Lag: Practically all park and recreation departments are directed and managed by people who came up through the ranks as professionals. Over and above the normal problem of a professional adjusting to his (her) role as a manager/executive, they subtly reject their new image as a management scientist whose primary responsibility is management and not recreation programming or forestry. There is widespread reluctance to recognize management of recreation services as "big business" requiring modern management tools. The result is that most recreation and park departments are lacking inknowledge and skills in the fields of management analysis, procedures, rocords management, operations analysis, PPB, systems analysis, and the computer sciences.

Many recreation professionals tend to view themselves as humanists, despite the fact that most recreation departments treat human beings as

things. Marilyn Jensen, one of the pioneers in the field of recreation-use of computers, noted that as Director of Recreation in Glendale, California, she was ridiculed as "the machine professional" when she shared her excitement for the potential of computers with her colleagues.

Discouraged by their finance directors and having a negative gut reaction toward machines and the management sciences, the park and recreation professional has ignored the subject of computer use. The result is a primitive level of computer technology in the vast majority of recreation organization and management processes.

COMPUTERS AND THE RECREATION AND PARK PROFESSION

The following is an attempt to describe the most effective use of the computer and telecommunication technologies for the leisure service provider. What is more important in the following, however, will be an attempt to make the park/recreation professional recognize that the ultimate effective use of the technology will be in the hands of those professionals who combine a basic understanding of their own profession with that of the technology itself.

Perceptions -- the Basis of Effective Use of Computers

It may seem odd, but the starting point for acquiring an understanding of the effective use of computers is a set of perceptions. Recreation and park professionals have different perceptions of not only the computer, but government and the professional's role in it. Each of these three perception-variance areas will be detailed below.

What is a Computer?

Most professionals think that the computer is an ultra-high speed, expensive calculator, a natural progression from adding machines to calculators, to bookkeeping machines, to punched card machines. Such a perception sees the computer as a statistical/analytical machine with tremendous calculating and printing capabilities.

The computer, however, is essentially a symbol manipulator with data items being the symbols. Based on a man-computer interface, men manipulate data symbols and then relate the data to a referent so that it forms applicable information. The fact that most professionals talk about information systems or management information systems when discussing computers, rather than about man-machine interface and the human role in automation, indicates the perceptual confusion about the computer.

The average government professional's perception of the computer suffers from a further serious default. The computer is looked upon as a special purpose or single purpose machine and is thus placed organizationally alongside a printing service, xerox service, car-pool, etc. The computer is used, in this way, only as a specialized tool that has to be managed in a separate distinct department, providing a limited list of services.

Recreation agencies should begin to think of, and use, the computer as a general purpose tool, like the telephone. If asked to list the specific uses of the telephone, one would have a difficult time preparing an overall rundown. However, if asked if it is possible to operate without one, the answer would be an emphatic "NO!!" The telephone is an economical, time-saving device, making its "operator" more effective and efficient. In fact, the instrument is limited ONLY by its user's imagination and motivation. Far from a SPECIFIC technology, the telephone has become such an important tool for innumerable day-to-day work pro-

cesses, that it is now indispensable for any and all operations. Indeed, it has changed our institutional processes and the whole fabric of our society.

What is Government's Function in Society?

THE UTILIZATION OF THE COMPUTER TECHNOLOGY IN PUBLIC AGENCIES IS DIRECTLY RELATED TO THE ROLE PERCEPTION OF GOVERNMENT IN SOCIETY.

If a government professional views government..... as a collection of functionally oriented bureaucracies prescribed by legal definitions of his department's responsibilities and primarily postured to react to problems as they come up with an intent of minimal involvement in shaping the life styles of the people living in the community..... THEN the computer will be used to handle large volumes of paperwork, record-keeping and computations with the objective of improving the efficient and economical operations of the public agency. The justification for use of a computer will be cost displacement (e.g. the computer system must cost less than or no more than the present manual system).

BUT ON THE OTHER HAND, IF the professional views his public agency..... as a primary institution for shaping the community that actively seeks new ways of improving the human and environmental quality of life, and is concerned with the broad goals of society regardless of the specific assignment of governmental responsibility of ALL public agencies, THEN..... there is sufficient justification for example, to use computers for matching peoples' needs with actual/potential recreation resources in the community and developing/monitoring specialized recreation programs for individuals or groups that want them. Economic justification of computer-use would be cost-avoidance (e.g. increasing the ability of current staff to do more, more effectively, truncating or retarding growth of size of staff).

There is no incompatability in searching for a more productive public sector

while carrying out the main role of government--to create, stimulate and maintain an environment responsive to the individual and collective needs, desires and interests of human beings.

The Professional's Role-Image

Ultimately, when effectively applied, the computer technology changes the role of each profession. What is the role of the librarian when the role of "keeper-of-books and other art items" can be taken over by the computer technology? Is it to stimulate the culture in a community and to serve as a prime source for furthering the on-going lifetime education of the citizenry of a community? Table 1 on Page 7 presents a partial list of the new roles for each of the major government professions that will be brought about by government automation.

The shift in role-image for the recreation/park professional

FROM.....activity organizers/gardeners

TO.....maximizers/coordinators of leisure opportunities

is a subtle but traumatic shift that calls forth new skills. That the "computer" will be the catalyst for such a role-image shift only increases the trauma.

The basic role image problem is even more complicated. Because of our deep heritage in the principles of Scientific Management, each government professional now operates as a specialist, convinced that his speciality has very little relationship to, or bearing on, another special area. The computer, thankfully, ends human specialization.

Unless and until this pattern of specialization is broken, governmental automation will only be dealing with the peripheries of computer technology's potential. This problem is deep-seated. It requires, for example, a recognition by police professionals that their role in government or in a community is highly related to

FIGURE 1

NEW ROLES FOR GOVERNMENT PROFESSIONALS
BROUGHT ABOUT BY THE FULL IMPACT OF
THE COMPUTER TECHNOLOGY ON
GOVERNMENT AUTOMATION

PROFESSION	CURRENT ROLE	ROLE IN GOVERNMENT THE YEAR 2002
Assessor	Appraiser	Community Financial Consultant
Building Inspector	Inspectors with special building trade skills	Stimulator or urban life style choices
CAP/Model City Specials	Stop Gap Artists	Community Re-constructors
Education	Teachers	Stimulators of Learning
Engineers	Surveyors & Draftsmen	Guardian of Environmental Quality
Finance	Account's Keepers	Public Economists
Fire	Water Squirters	Family Safety Coordinators
Health	Public Health Doctors	Community Health Resources Maximizer
Librarian	Bookkeepers	Cultural Stimulators; Continuing Educators
Manpower	Matchmakers	Full E[illegible] Guardians
Personnel	Rule Keepers	Emp[illegible]velopment Officers
Planners	Code Enforcers	Coordinators of Community Molding
Police	Law Enforcers	Creators of Environmental Confidence
Public Utilities	Utility Industries	Environment Maximizers
Public Works	Street Keepers/Refuse Collectors	Controllers of physical environment quality
Recreation/Parks	Recreation activity organizers/gardeners	Maximizers & Coordinators of Leisure Opportunity
Redevelopment	Special Site Developers	Stimulators of continuous community refurbishing
Tax Collector	Bill Collector	Stimulate Community Economic Development
Transportation	Car Followers	People Movers
Welfare	Money Funnels	Family Retoolers

the work of educators, recreation directors, and welfare workers. THERE IS NO GOVERNMENT PROFESSION THAT CAN CONTINUE TO WORK IN ISOLATION WITHOUT GREAT INTERDEPENDENCE WITH OTHERS. Until that concept is deeply absorbed into the value system and ultimately into the role image of government professions, all efforts to apply computers effectively are pointless.

The Inhuman Use of Humans in Organizations

Dr. Norbert Wiener, one of the originators of the cybernetic theory that led to the computer revolution, tried to make our society recognize the fact that for the most part, human employees in an organization do the work of machines. The result is twofold: tasks which only human beings can perform lie undone; and tasks which humans perform can be done better and faster by machines.

The necessity of automation means not only the need for a quantum leap in societal productivity, particularly in the public sector. What is more important is the dignity that comes to human beings from knowing that theirs is a more meaningful contribution to their work.

It is easy today, for example, to recognize that it would be IMPOSSIBLE to operate recreation agencies without telephones; yet in 1872 few organizations could have convinced their constituency to make a wholesale investment in such a technological modernization as telephones.

This paradox still exists today. Despite the fact that there is inhuman use of humans in organizations, few recreation and park departments make fundamental and far-reaching investments in modern technologies such as computers. Yet, the community pays in one fashion or another when humans use manual methods for collecting, storing, retrieving, manipulating, recording, and displaying data. It is doubtful, for example, if any one can accurately calculate the cost to a community--public and private institutions included--to maintain a profifery of maps;

even an estimate of such a cost would be staggering. Yet, investment in computerized cartography for a community will most probably take decades.

Recreation and park professionals should be improving their effectiveness as USERS of data; they cannot because they are bogged down as PROCESSERS of data, despite the fact that as data processers they are inefficient and uneconomical.

"Seat of the Pants" Management

For the sophisticated nature of our complex society and for all the sophisticated tools available today, most recreation and park departments are still operated and managed in a highly simplified manner. The use of data in government is an example of the "seat of the pants" approach. Presently, both data systems and use of such systems are based on early 20th century methodologies. The Boston Park and Recreation Department introduction of a computer-based PPB system is the rare exception. Sophisticated data management is slowly beginning to be recognized as a necessity. The use of computerized data management and analytical systems for national elections is a good example of how the modern politician understands how winning elections has become a modern science. A large number of government politicians and professionals, however, have yet to recognize this phenomenon. As long as there is the attitude that "seat of the pants" management is sufficient for society's needs, the sophisticated use of computers for the organization, operations and management of parks and recreation is unlikely.

The Computer: A Primer for the Recreation/Park Professional

The following is a limited explanation of computers and electronic data processing systems. It is presented in outline form for purposes of brevity.

1. A computer-based data processing system consists of the following elements:

   * People
   * Computer/tele-communication machines
   * Software (e.g. "programs" that instruct the machines):
     - Operating system (controls the operation of the machines)
     - Data Management (controls the flow and manipulation of data)
     - Applications (performs the data processing for specific organizational units)
   * Dynamic Data Base (all of the data used by the organization)
   * Institutional Procedures

2. The computer can be thought of as a "black box." Actually it is a group of interconnected machines that have five primary functions:

   Input - converts symbols (your name) into an electronic coded language that the machines can manipulate (e.g. a punch card reader or magnetic tape reader).

   Control- coordinating all the machines and integrating them into a system. There are two types of control:

   .....<u>fixed</u> (the circuitry built inside the machines in the factory)

   .....<u>temporary</u> (the set of instructions prepared by programmers for each application, as inventory control of park supplied and equipment.

   Arithmetic/Logic - Built in circuitry that performs adding, subtracting, multiplying, dividing, squaring, etc. Logic circuitry, for example, would compare a request for enrollment in tennis lessons with available spaces in the class and then print out a message

(or letter/confirmation notice) that space is available and reserved for the requestee.

Storage (memory) - A means of putting data into some kind of code (e.g. a code of magnetic dots on an iron-oxide coated plastic tape) that will be retained so that it can be located and manipulated at some future time.

Output -Taking data in a magnetized or electronic form and converting it to arabic characters that men understand (e.g. a printer or an airline reservation terminal).

3. Basic potentialities and payoffs of computer systems

Potentiality	Payoff	Example
Processing/Record Keeping (Automation)	Economy & Efficiency	Scheduling, Timekeeping, Rosters, Accounting, Facilities Inventory
Data Communications	Improve Service Delivery	Registration from the home; individualized recreation service packages
Analysis & Control	Improved Planning & Management	Costing; Capital Budgeting; Trends in Interests & Needs; New Opportunities; New Community Resources

4. What is Integrated Data Processing

An integrated information system has three major distinguishing components:

INTEGRATED DATA FLOWS - Automation of routine data processing procedures (paperwork) and automatic communication of data when and where needed.

INTEGRATED DATA PROCESSING- Managing data so that operational and planning data are standard, accurate, timely and/or confidential.

INTEGRATED DATA BASE - Consolidation of data about persons, events and

things to obtain a complete "picture."

Perhaps the most important feature of an Integrated Information System referent to service delivery is that it provides a capability for different organizations or different units within an organization to interchange data automatically.

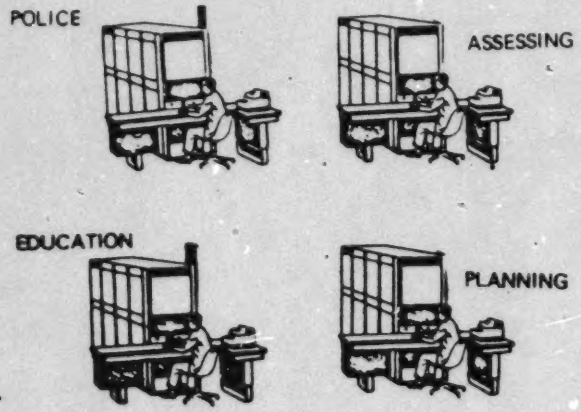
> The central question regarding integrated information systems is not which is the best way to store and process data, but rather what is the best way to manage the organization.
> - If the Director of Recreation Parks wants to manage his department as a number of separate entities, then Independent Data Systems are to be preferred.
> - If, however, he wishes to manage the department as an integrated unit, then the data processing system should be designed as an integrated unit.

5. The primary design principles for park and recreation data processing systems should be, therefore:

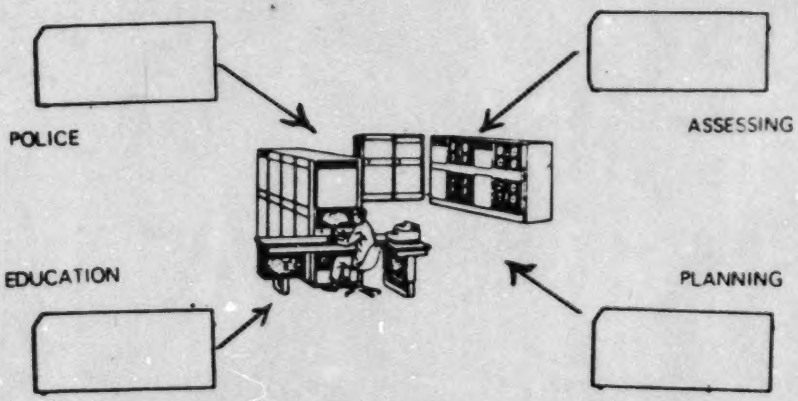
* Automation
  - to free humans from machine-like work thus increasing their time to deal more humanly with clientele
  - to increase productivity: a computer terminal should be as indespensible to professionals as telephones are today
* Direct Use by The Public - to let the computer serve the public directly (registration from the home; weekend/vacation leisure planning & reservation service).
* Integrated Data Communications - to interrelate all community processes and resources devoted to improving community life

THE PRIMARY PAYOFF FROM COMPUTERS: TO DO THAT WHICH HERETOFORE HAS BEEN IMPOSSIBLE.

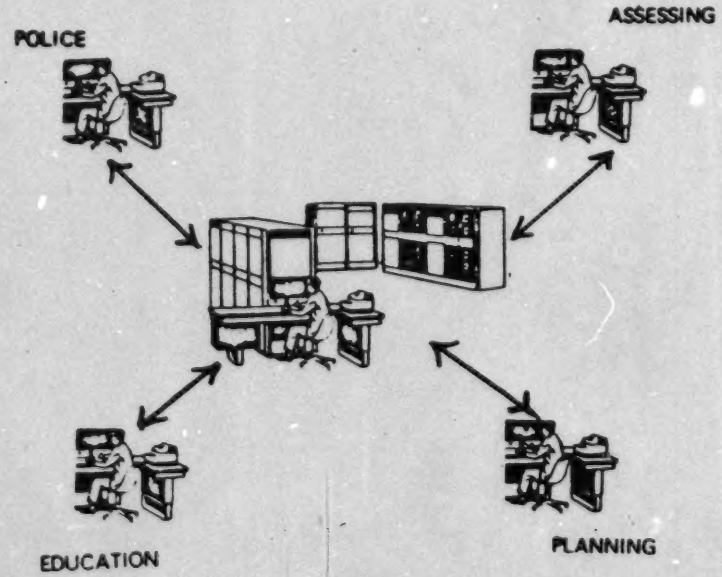
6. Be aware of the following pictorial History of Computer Hardware/Software Development: 1960's-1970's and its implications for you. Soon you can, and will, be part of a computer network.



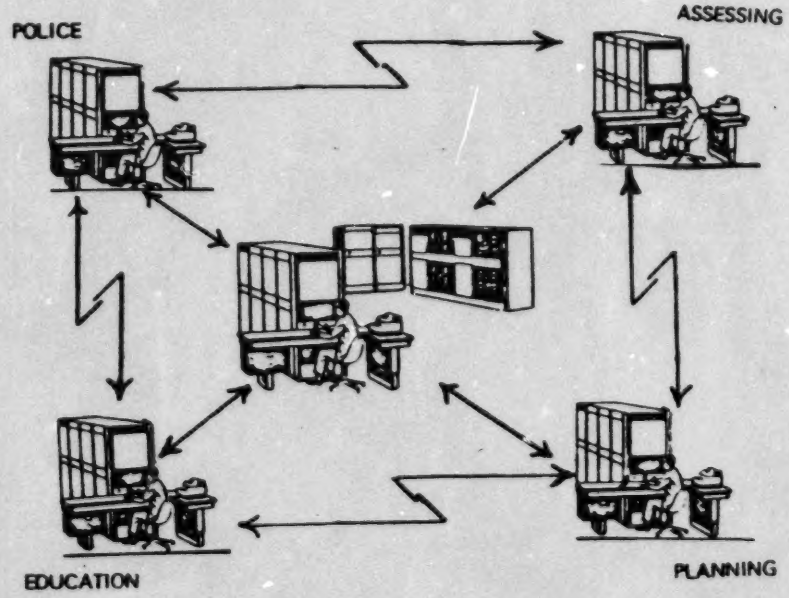
Early 1960's - stand alone small computers.



Late 1960's: Batch input to large central computer.



Early 1970's: On-line terminals



Late 1970's: Small/mini-computers on-line to each other.

FIGURE 2

PRIMARY APPLICATIONS OF THE COMPUTER TECHNOLOGY TO RECREATION & PARKS

The major uses of the technology for any community institution/organization are for:

(1) Direct use by citizens and community institutions

(2) Extending professionals' decision/action capabilities

(3) Organizational support

These major applications are based on the model presented in Figure 3 . They will be described in general and then specifically for recreation. A more detailed explanation is presented in Appendix C.

GENERAL THEORY

(1) DIRECT USE BY CITIZENS & COMMUNITY INSTITUTIONS

Each citizen, group, or institution in society has the right to expect that governmental computers will be designed for direct use by the citizen. The 20th century has witnessed the phenomenally fast growth of telephone and TV communication systems. Rapid advances in the CATV, computer and VTR (video tape recorder) technologies will be matched by an equally explosive growth of computer/TV terminals in homes and offices by the advent of the 21st century. Consequently, direct communications between citizens/institutions in a community and computers should be anticipated.

One rarely thinks of governmental computers as being used directly by the public, but the primary design of our computer systems should be to provide direct use by citizens and community institutions. Possible categories of direct use by the public are illustrated below:

FIGURE 3

A MODEL FOR THE USE OF COMPUTERS
IN GOVERNMENTAL ORGANIZATION

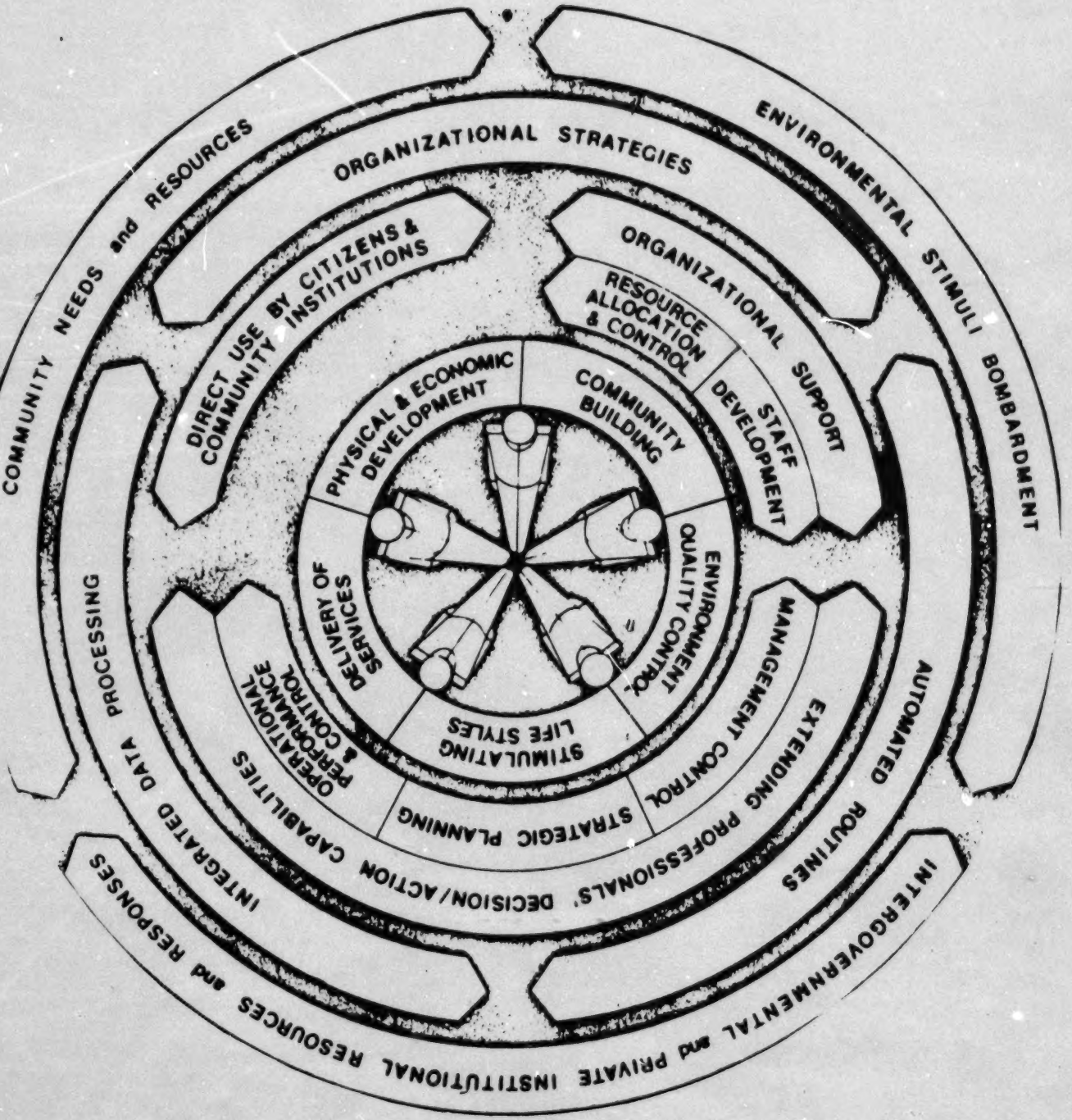


FIGURE 4

EXAMPLES OF DIRECT USE OF COMPUTERS BY CITIZENS

COMPUTER AS:	FACILITIES AVAILABILITY, LOCATION, AND USE OF:
Tickler	Books, art forms, videotapes, records, recreation and community activities in which the citizen is interested
Instructor	Cradle to grave education
Searcher	Education/research for facts, homework, etc. Shopping guide for best buys Encyclopedia articles Train, bus, plane schedules Education opportunities Title search/recent sales for building appraisals Housing vacancies Government/rules/regulations/laws/plans/programs
Community Service Resource	Welfare funds Employment Community talents Volunteers Cultural/leisure activity hotline
Personal Scheduler	Car pools Communal equipment Lessons Bulk purchasing Medical appointments
Personal Planner & Record Keeper	Recipes Nutrition Food planning Home budgeting Authorized health/welfare records Recreational registration & payment Education registration & payment Registration & payments: licenses, library, leisure travel and taxes
Dispatcher	Firemen Police

(2) EXTENDING PROFESSIONALS' DECISION/ACTION CAPABILITIES

In order to better understand this application, the concept is applied to the classic levels of organization and management.

Operational Performance & Control

The provision of services on a day-to-day basis consumes the majority of government employees time. Whether this involves exercising physical or mental effort in contacting the physical or human environment, the goal of the operation is to improve the public's overall quality of life. Whatever the situation or solution, the professional's energies must be directed to impact his environment in a personal manner. Since the computer can actually extend the professionals' brain system (e.g. decision and action capabilities) and so increase the effectiveness of operational systems, the following areas could be improved and expanded by computer application:

- Provide more and better services for a given expenditure of resources.
- Be more responsive to the needs of the overall environment.
- Interrelate and integrate all COMMUNITY service responses so that the needs of individuals, companies, and the physical world are thoroughly met with minimum expenditure on the consumer's part.

Computer Thrust

Provide an indirect service to the public by designing man-machine interaction, allowing the professional to concentrate on service delivery while the machine handles all of the data minutiae that have to do with public and private community institutions. Our motto here is "LET YOUR COMPUTER DO THE WALKING THROUGH YOUR COMMUNITY RESOURCES."

Management Control

The day of personal, face-to-face monitoring of government operations is long gone. However, the question of whether ALL the facets of government are operating smoothly with acceptable cost/effectiveness ratios is more vital than ever. Potential problem areas must be anticipated so that corrective measures can be taken when the dimensions of the problem are manageable. "Brushfire-fighting" management is passe. Faced with an increasing quantity and complexity of management chores, government professionals must find a technological extension of their decision/action capabilities for monitoring and managing operations. The overall criteria for management control are:

- Provide services at a predetermined level of quality with minimum disruption and a minimal expenditure of community resources.
- Monitor a larger number of personalized delivery of services or delivery of services involving complex resource interrelations of many different organizations.
- Highlight areas of disparity between actual program achievement and predetermined levels of program achievement so that disparities can be removed.

Computer Thrust

Concentrate not only on the specific goals for which a professional has prime and direct responsibility, but on all governmental functions. For example, while the primary responsibility of the librarian is to impart culture, he can, and should, undertake activities that can meet the following partial list of additional government responsibilities.

Education.....serve as one of the primary motivators and sources of continuing education in the community.

Health.....provide classes, materials, displays in such areas as nutrition, first aid, VD detection, etc.

Recreation.....initiate art or crafts lessons, dramatic presentations, record jam sessions, creative writing contests, etc.

Drug Abuse.....displays, materials, lectures and "rap sessions" for teenagers and adults on drug detection, hazards, conditions creating a drug culture, etc.

Family Safety.....advice, materials, demonstrations on home hazards, escaping from fires, water safety, etc.

Job Training.....displays, materials, discussions to stimulate interest in new job opportunities or job upgrading classes.

Each government professional should view his activities both vertically (within the confines of his functional speciality AND horizontally (processes that cut across functional lines in his organization and that even cut across and cover all community institutions).

Strategic Planning

The purpose of strategic planning is the discernment of patterns. This function is the most difficult of managerial functions. But it is one area in which man ALONE has the ability. Machines are very limited in pattern-discernment. Viewing the environment in macro-terms, government professionals must be freed from time-consuming chores of accumulating and manipulating data (for which the machine is much better suited) in order to evaluate and ponder data interrelationships from many sources until patterns are discerned and new problem/policies devised.

For example, an increase in drug-related crime would most likely create a government response of increased resources for police enforcement. But a comprehensive data analysis may indicate that drug-use is related to lack of involvement

in meaningful recreation activities or lack of employment in socially/significant jobs. Increased resources in these latter public services may have to be coupled with increased enforcement; otherwise the government may only be treating the symptoms, not the cause, of drug abuse.

Too many government problems today receive only simplistic, "seat-of-the-pants" thinking before actions are taken. When men are bogged down with receiving and processing data stimuli that flow at bombardment rates there is very little time remaining to analyze the data and perceive patterns. Machines can and should receive/process data stimuli; in turn, men should be trained to take advantage of sophisticated computer graphic techniques to discern patterns and formulate response strategies. As societal systems and problems become more complicated and intricately interrelated, there will be a greater need for computer support of the government professionals' strategic planning activities.

(3) ORGANIZATIONAL SUPPORT

The third category of governmental computer use focuses on the internal workings of the organization, and is concerned with providing the support necessary to sustain the day to day carrying out of the government's mission. As with other institutions, most governmental tasks operate minute by minute... rarely noticed, but always expected. The flow of data that results from the volume, variety and complexity of government tasks is staggering. What the public perceives as relatively "simple" tasks (e.g. insuring the safety of a building or assuring the availability of water at the proper pressure in the event of a fire) require a constant stream of operational processes and data in order to maintain the vigilance required for public safety.

While citizens expect governmental organizations to be well-oiled teams, poised for action in any eventuality and always protecting the "public concern,"

these expectations create an impedient for the efficient, economic effective operation of governments. Because of the over-burden with the large number of required day-to-day processes and data-flows, the government professional devotes little time to the more critical and difficult problems concerned with clientele and services. The welfare worker, for example, is so overburdened with paperwork, that the hours devoted to clerical duties often outnumber the hours devoted to professional social work.

The third major category of computer-use for government is internal in focus providing organizational support to the professional such that the detailed, day-to-day processes and data flows can be largely assumed by machines. There are two subdivisions to this application: Resource Allocation & Control and Staff Development.

RESOURCE ALLOCATION & CONTROL involves the optimal use, scheduling and assignment of men, machines and materials. The following is a listing of how computer assistance can be used for this application. Staggering as these items may be in terms of required investment for an agency, they are only an illustration of types of computer support for every day activities concerned with resource allocation control:

FIGURE 4

Examples of Computer-Based Resource Allocation & Control

SUPPORT IN:	
ROUTING:	plowing, sanding, police patrols, fire response, inspection districts, meter readers.
SCHEDULING:	pupils, patients, client appointments, inspections, manpower assignments.
NETWORKS:	streets, water pipelines, sewers, location of firehouses, or schools
PERT/CPM:	(specialized form of scheduling control) major construction projects

AUTOMATIC MECHANISMS:	meter readings, automatic traffic control, vehicle location.
INDEXING OF:	ordinances, statutes, board decisions, rules, regulations, codes, standards, etc.
ACCOUNTING:	appropriation, cost, performance, PPB with particular ability for dynamic cross-classifications.
MAP-MAKING.	complete automation of preparation, maintenance, manipulation and display of maps and geographic oriented data (cartography function).
TICLKERS:	automatic reminders to professionals based on expected effect of causal factors related to events or dates.
"WAR-ROOM:"	automatic display of status reports on predetermined or ad-hoc basis for ongoing or crises situations.
COMMUNITY RESOURCES:	to involve talented people in recreation or cultural activities or to identify key citizens who can be requested to participate in solution of racial crises or labor strikes, etc.
PRECEDENCE MEMORY:	similar to the computerized maintenance of legal searches for precedence law, maintenance of situational histories that in the past when X occured, we found Y to be a good solution; this could apply to innovative ideas used in other jurisdictions that could be used as models when the need arises.
ENCYCLOPEDIC DATA:	these could range from a complete statewide computerized reservoir of resources (leisure or cultural resources for example) to a computerized reservoir or recreational equipment listed by vendor, with prices and specifications maintained on a statewide basis but available to any recreation agency in the state as an assistance for local purchasing.

STAFF DEVELOPMENT - the necessity to continually concentrate on the personal and professional development of employees, is often not recognized as an important function of government organization. In most situations, personnel departments and line administrators are so busy with the everyday necessities of data accumulation that they neglect the one most important asset of any organization -- the human investment. It is thus vital that a prime application of computer technology

be for the purpose of staff development programs. This requires a personnel management philosophy and program that supports a responsive organizational institution. The personnel unit's prime purpose is employee development. This requires several activities: assisting employees to adjust to their work group, work with the employee during his entire tenure until he has reached the maximum of his professional development within the organization and his profession, psychological or counseling services, stimulation of educational opportunities for each employee, opportunities for material rewards from work e.g. base pay, cost-of-living, special skills, difficult duty, extra awards, recognition, special prizes or paid vacations.

Computer technology can be extremely useful in the staff development efforts of organizations by:

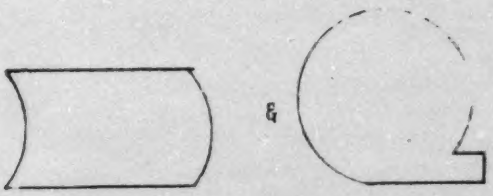
* Automating personnel administrations' everyday routine so that involvement of Employee Development Officers (EDO) in paperwork and record keeping is minimized, personnel needs are anticipated and met with the least time lag.
* Monitoring the development (personal and professional) of each employee. Development programs dynamically maintained by administrator and EDO, computer alerts for special attention employee needs.
* Providing talent bank of employee capabilities so that talents in a government organization can be quickly tapped for a wide range of purposes: promotions, assignment of responsibilities, special task forces (volunteer & crisis), cultural, leisure, educational groups.
* Automating the material and psychic reward systems in order to dispense them fairly, with little human effort, while maintaining necessary records and analytical data.
* Providing access to data sources for rapid dissemination in order to enhance organizational communications, facilitate mission achievement by single or group employees and facilitate personal advancement of the government employee.

The primary applications of computer to government have now been described: Direct Use by Citizens or Community Institutions; Extending the Professionals' Decision/Action Capabilities; Organizational Support required for Resources Allocation & Control and Staff Development. Regardless of the particular department, function, speciality or profession in which an employee is involved, these three are the fundamental areas of governmental computer-use.

Specific Application to Recreation & Parks

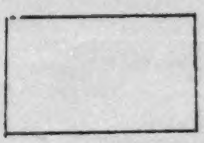
Overview

The following graphic (Figure 5) presents an overview of the application of computers to recreation and parks. The symbols have the following meaning:

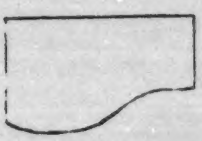


= Computerized Data

= Direct Access Computer Terminal



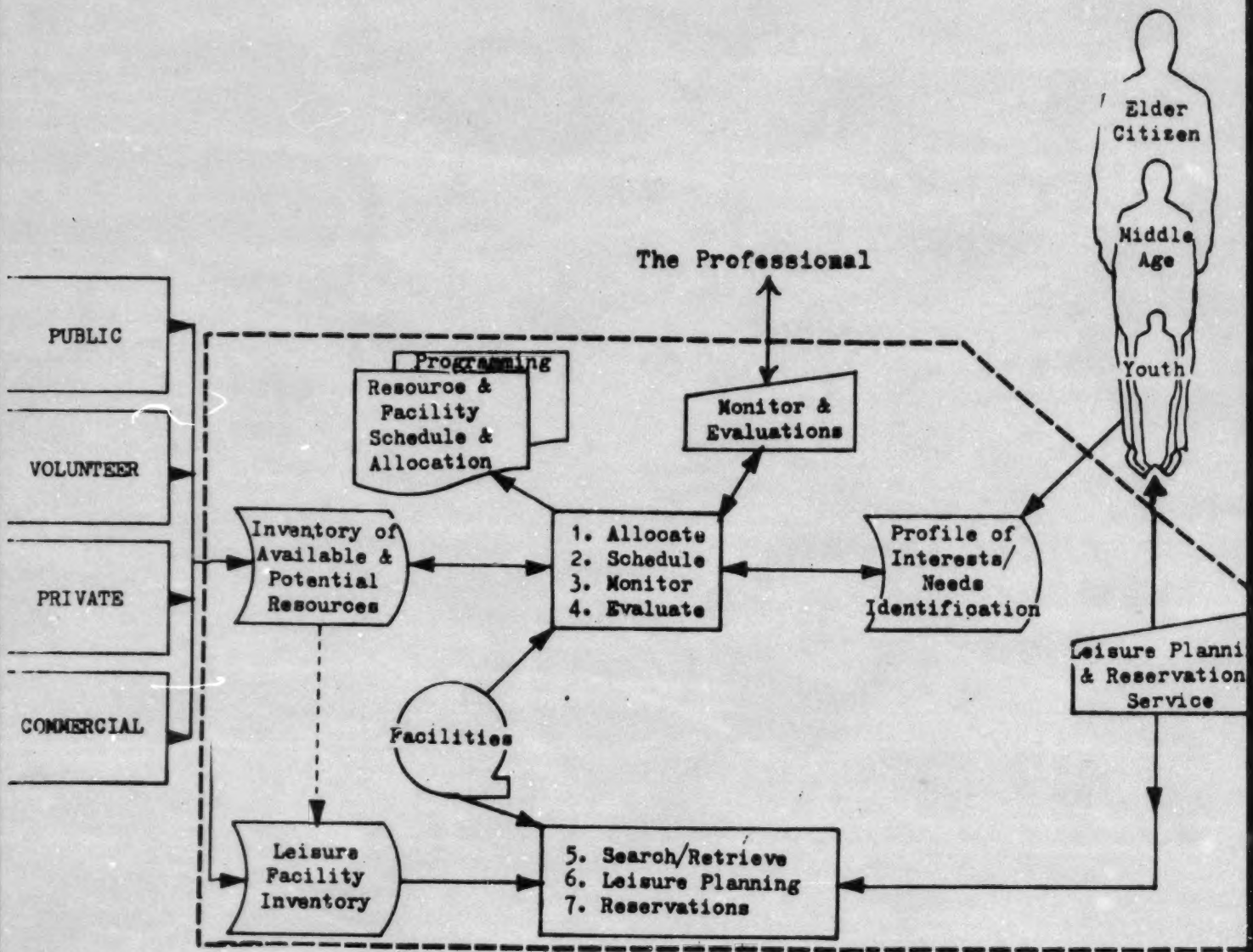
= Computer Programs & Applications (Numbers)



= Reports

FIGURE 5

EXAMPLES OF COMPUTER BASED RESOURCE
ALLOCATION & CONTROL



But this overview is too general. To better understand the specific application of computer to recreation & parks, let us recall the model described above; it included the following primary applications of computers:

* Direct use by citizens & community institutions.
* Extending professionals' decision/action capabilities
  - Operational Performance & Control
  - Management Control
  - Strategic Planning
* Organizational Support
  - Resource Allocation & Control
  - Staff Development.

Using this model, let us describe examples of each application for parks & recreation.

Direct Use by Citizens (Recreation/Park Computer System)

- Registrations/Reservations
- Cultural/Leisure Hotline
- Activity Tickler (the citizen is notified automatically of activities he is interested in).
- Interactive Games
- Talent/Facility Resource Searches
- Family Leisure Planning
- Leisure Opportunity Suggestions

Extending Professionals' Decision/Action Capability

Example: Computer-Based OPERATIONAL PERFORMANCE & CONTROL for Recreation & Parks

- Individual Leisure Programs (see Appendix A for detailed description).

- Group/Neighborhood Programs
- Evaluation/Effectiveness Control
- Resource/Talent Searching
- Resource/Talent Utilization
- Park/Recreation Development Projects
- Matching: Needs with Resources

Example: Computerized MANAGEMENT CONTROL for Recreation & Parks

Monitor:

- Community Building Efforts
- Leisure Opportunity Maximizing
- Resource Use Scheduling & Availability
- Program Statistics
- Budget & Cost
- Community Wide Systems

See Appendix B for detailed example of computer-based management control for recreation.

Example: Computerized STRATEGIC PLANNING for Recreation & Parks

Pattern Recognition

- Leisure needs: Community/Individual
- Leisure Opportunities by Types-programs; Areas; Ages
- Resource Scan: Actual & Potential

Policy Formulation:

- New Resource Allocation Plans
- New Facilities & Strategies
- Incentives to Stimulate Commercial & Private Leisure Resources

Organizational Support

Example: Computer-based RESOURCE ALLOCATION & CONTROL for Park & Recreation

- Timekeeping/Payroll/Accounting
- Facilities: Location/Maintenance/Preparation
- Scheduling: Talents/Facilities
- Inventories
- Revenue Collections

Example: Computer-based STAFF DEVELOPMENT for Park & Recreation

- Broadening of Talents & Skills
- Volunteer Training
- New Staff Opportunities
- Talent Bank within Organization

It should be understood that the above examples of computer use by recreation & parks.....

(a) are based on.....Integrated Data Processing
Automated Routines
Organizational Strategies

(b) are initiated by.....Environmental Stimuli
Community Needs/Resources
Intergovernmental/Private Resources & Responses

(c) require.....Automation equipment (machines that process data in digital form).
Photomation equipment (machines that process data in a whole image form).
Data bases (a dynamic "reservoir" of data in machine readible form).

These you will note are all part of the "MODEL" (see Figure 3) use of computers. For those interested, they will be explained in detail in Appendix C.

Summary

While this discussion has focused completely on Integrated Data Processing (IDP) for recreation and parks, it should be recognized that IDP is one of five components in a recreation and park system, all of which are intricately interrelated. Thus a complete recreation system would have the following five components:

- service delivery
- resources
- planning & evaluation
- integrated data processing
- management

The design of IDP for recreation and parks must be related to all other components.

This discussion has attempted to provide the recreation and park professional a basic understanding of the computer technology and its impact and potential for the profession. Whether this potential will be tapped is most directly related to your role-image as a park and recreation profession: are you the head recreation programmer or forester or are you an executive charged with the responsibility of guiding and managing the evolution of a leisure society?

APPENDIX A

EXAMPLE OF INDIVIDUAL RECREATION PROGRAM

DEVELOPED BY COMPUTER-BASED SYSTEM

WETHERSFIELD RECREATION DEPARTMENT

INDIVIDUAL PROGRAM..... #SJO 224-6

PRIORITY NO.	ITEM	BENEFITS PRIMARY (NEEDS SATISFACTION RATINGS)		SECONDARY	CONSTRAINTS COSTS	OTHER
01.1	MEMBER: ARCHERY CLUB (MAX - 5M	IND TENSION SKILL LEIS LONELINESS PEER ACCEPT ALONENESS	06 04 03 03 04	SEE PROGRAM: JBR 305-8 (LEADER) BKN 225-3 WBA 644-7 (PARTIC)	$200 P.S. $ 60 INS. 140 COMD.	CAMPING EQUIP. NEEDED
01.2	LEADER: NEW GROUP PRE-TEENS (MAX 4M) IND LEISURE SKILLS	WORTH/CONT LONELINESS TENSION:FAM TENSION:IND	07 02 03 02	SEE PROGRAM: ADA 715-3 JBE 118-2 RML 847-5 (PARTIC)	$8.00/SESS. 30 SESSIONS	TRANSPORT 1/WEEK 3:30-5:30 PARENT
02.1	PRINTER COMMUNITY PLAYERS THEATER: * SIGNS * SETS * PROGRAMS	CREATIVE EXP WORTH/CONTRI ALIENATION SKILLS:ORG SKILLS:OCP	06 04 04 06 03	VOL. PROG. # V-22	$175 COMD. (ALLOCATED)	TRANSPORT 1/WEEK 7:30-9:30 PARENT OK LATE OTHER TASKS
02.2	SKI LESSONS	SPORTS INTERESTS: LEARN NEW INDIVIDUAL OUTDOORS COLD	 06 05 05 07	REC. PROG. #OUT-37	PART. PAYS $3.00/SESS. 10 SESSIONS	PARENT OK FOR LIABILITY

PPB SUMMARY:

01	BENEFITS: 65%	COSTS:	$400 ÷ 6 & $240 ÷ 5 ... $114
02	BENEFITS: 25%	COSTS:	$175 (BUDGETED & ALLOCATED) PLUS MGT. OVERHEAD IN TIME
BOTH	BENEFITS: 90%	COSTS:	TOTAL $640/$114 IND $175 COMMITTED & ALLOCATED PLUS MGT. OVERHEAD IN TIME

NOTE:

Code numbers are used to identify the individual

mew/11-69

All number values for interests and needs are on a scale from 00 (no interest/no need) to 10 (an intense interest or need).

EXAMPLE OF COMPUTER-BASED MANAGEMENT CONTROL FOR RECREATION

1. A program to match an individual's needs/interest against current/potential activities programs and then optimize the alternative program possibilities. For each individual so leisure programmed, the computer would prepare a list of each activity/program that could satisfy the individual's needs/interest. For each activity listed, the resources required, level of satisfaction that could be achieved and the constraints on the activity would also be printed out. The recreation professional, using his best judgement, would prepare what he considers to be the most effective program for the particular individual. (It should be noted in passing that this will place a big responsibility on the recreation programmer since he will have to balance community and the individual's values against his values as a municipal professional).

   The program for the individual would not yet be set until the other systems were operated to ascertain total impact on recreation budget resources and until the individuals involved concurred on their particularized programs.

   The example shown in Appendix A illustrates the type of printout a recreation professional would have to review before developing an individual program. Of particular importance are questions such as: (a) how much of the individual's needs are satisfied? (Note the answer to this question in Appendix A under the heading "PPB Summary" in terms of benefits percentage, i.e., percentage level of satisfying his total needs); (b) what are secondary benefits? (In the example, the archery club would have other participants--PARTIC--whose needs would be met;

but equally important is the fact that in addition to being a resource to the Recreation Department, the leader of the archery club--who is a retiree--would have some of his own needs met by being a leader. The same is true where individual #SJO 224-6 is suggested as a leader of a new pre-teen group who would bowl and play pool weekly; and (c) what are the "constraints?" Appendix A describes these both in monetary terms (personal services) and in terms of necessary arrangements (e.g. transportation or parental approval).

2. A resource scheduling computer system that will budget the utilization of all available and potentially available resources so as to optimize both the effectiveness of available resources and the satisfaction of the individual's needs-interests programs. This computer would be a form of program/planning/budgeting system searching for the highest cost/effectiveness ratios. The new result would be a plan of resource budgeting and allocation so as to best use municipal revenues to maximize individualized and group recreation needs/interest. This system, together with the one described above, would be run several times to arrive at the optimum schedule of resource utilization and allocation. In addition, periodically, it would be updated as needs and resource availability change, both on an aggregate and a specific basis. (NOTE: The process described in these two systems--known technically as linear programming--is not unlike that which currently is used for the scheduling of high school students by computer; the recreation individualized programming system admittedly would be more difficult and complex because of the larger number of variables).

3. Monitor Program Responsiveness: Plans and programs, both individual

and organizational, are of no value unless they are effective, i.e., reach objectives; fulfill needs and interests; maximize the use of available municipal resources allocated for raising the quality of the public's lives through leisure programs/activities. Thus, computer software (programs) must be developed to monitor and evaluate particularized individual programs and aggregate community recreation activities. This software system should alert the municipal recreation director to those individual programs that need his attention and require his action in the form of reprogramming, stimulating, motivating, etc.

The most difficult portion of this software will be a simplified data collection system that will evaluate the progress of the individual towards meeting his needs via the recreation program. It must include evaluation of the individual by himself as well as by recreation, educational, police, health and welfare professions where each is involved.

Based on the above evaluations, the system should be designed to automatically provide an alert for those individuals who require additional programming or re-programming.

> For example, if a dropout in the abandoned car/auto-mechanics program reached the proficiency that he could become an apprentice, a computerized notice should be prepared automatically and forwarded to government manpower development agencies with a tickler notification automatically built in for the recreation director, the retired mechanic who taught him the skills, and the municipal chief executive's office.

The recreation data base and computer programs should be directed toward letting the computer take over most of the day-to-day processing, freeing the recreation professional to serve as a developer of individual and community needs, as allocator of municipal resources to maximize meeting of needs, and as monitor of the progress of individual,

neighborhood, and community needs/interest satisfaction. With technology providing and processing data (always at his immediate availability for informational and analytical purposes), he becomes an organizational strategist--primarily concerned with getting things done, not doing them with his own personnel. He would not be management system-bound internally since he is utilizing the computer technology's unlimited ability to absorb data stimuli and react in accordance with preset rules of performance. The cybernetic process is true whether the stimuli come at the rate of one an hour or literally at a bombardment rate of one per second--true for a machine, but not for a human being. The recreation professional would be focused on particularizing programs for individuals for the purpose of contributing to the municipalities' task of creating an environment responsive to human needs. He would be utilizing his professional capabilities more efficiently, reducing to a minimum nonprofessional, time-consuming activities of management and control that technology can absorb.

In essence, we are talking about a totally new and different way of carrying out the function of local governments. If it seems radical, one should compare the work methods in the early phases of the industrial revolution with today's work methods. To the person living then, our methods are not just revolutionary, they are radical.

The current technological evolution will broaden man's horizons not in terms of more (material prosperity) but in quality of the way in which individual citizens can live with the support of and tolerance for their fellow citizens, all acting in concert as a community.

DETAILED DESCRIPTION OF "MODEL FOR USE OF COMPUTERS"

AS IT REFERS TO RECREATION & PARKS

Figure No. 3 is a graphic presentation of a "Model for the use of Computers in Governmental Organizations." We have already described some of the components in this model (see pages above):

PRIMARY APPLICATIONS OF COMPUTERS

- Direct use by Citizens & Community Resources
- Extending the Professionals' Decision & Action Capabilities
- Organizational Support

This appendix will describe the following and give examples that relate specifically to parks and recreation.

AREAS OF COMPUTER USE

- Automated Routines
- Integrated Data Processing
- Organizational Strategies

BASES OF AUTOMATION

- Environmental Stimuli Bombardment
- Community Needs & Resources
- Intergovernmental & Private Institutional Resources & Responses

AUTOMATED ROUTINES:

Automated routines are the means by which machines do physical and mental symbol manipulation. It involves more than computerization which is using computers for isolated activities. Automation involves looking at a complete task

from start to finish and permitting the machine to become an efficient, organic part of the organization concerned with internal paperwork (e.g. recording, editing, maintaining, retrieving and displaying data) and external processes (e.g. issuing certificates of course completion). Automated mechanisms also involves the use of computers to control or drive other machines (e.g. automated mapping, traffic control, water-works control).

EXAMPLES FOR PARK & RECREATION

AUTOMATED ROUTINES

- Registration/Recordkeeping
- Schedules/Ticklers
- Facilities/Program Inventories
- Area Resources
- Certificates/Rosters
- Report Preparation/Attendance Accts.
- Time & Activity Reporting

INTEGRATED DATA PROCESSING

An integrated information system has three major distinguishing components listed below and described in non-technical terms:

INTEGRATED DATA FLOWS - automation of routine data processing procedures (paperwork) and automatic communication of data when and where needed.

INTEGRATED DATA PROCESSING - managing data so that operational and planning data are standard, accurate, timely, and/or confidential.

INTEGRATED DATA BASE - consolidation of data about persons, events and things to obtain a complete "picture."

Figure #6 illustrates how "Integrated" Information Systems differ from "Independent" Information Systems.

FIGURE 6

TECHNICAL DIFFERENCES BETWEEN INDEPENDENT AND INTEGRATED INFORMATION SYSTEMS

System Component	INDEPENDENT	INTEGRATED
DATA FLOWS	- ownership of data is with source; data generally available only to owner	- ownership of data is common except for confidential data; therefore data potentially available to everyone who needs it
	- outputs from one system must be manually fed as imput to another	- outputs from one system automatically transmitted to where needed when needed and planned for in advance
	- multiple sources of same data	- data source function assigned to activity with greatest comparative advantage
DATA PROCESSING	- each file accessed by its own programs for maintenance and retrieval	- certain processing functions performed by common modules
	- no data about data	- meta data which permits consolidation
	- no common standards, each activity has its own input, output, processing	- data standards, data definitions, identifiers
	- data base tied to data processing, and therefore whole systems must be changed	- separation of data processing from data base permits each to change
DATA BASE	- large number of files, each separately stored	- files logically linked to form data base organized by object, to which data refer (e.g. people, property, events).
	- no data passes from one file to another	- automatic flow of data
	- no sharing of data required or possible	- routine sharing of data feasible

EXAMPLES OF INTEGRATED DATA PROCESSING
FOR PARK & RECREATION

INTEGRATED DATA PROCESSING	INTEGRATED DATA BASES
Data Management System	Individual Needs/Interests Profiles
Integrated Data Base	Group Needs/Interests Profiles
Data Base Coordinator	Resources: Active & Potential (Community/area/state-wide)
Operating System	*Facilities *Talents
Geocoding Systems	*Equipment *Activities/Programs
	Schedules: facilities, equipment, program
	Registrations & Reservations
	Accounts: Financial & Budgetary

Organizational Strategies

One of the most severe limitations placed on our current abiltiy to manage and organize societal institutions is the entrenchment of the concept that organization is a structure. Based on the principles of scientific management, hierarchical structures are such a compulsion in American institutions that in many governments they operate as separate kingdoms with political power. The education, fire/police, or health professions illustrate government professionals that have institutionalized their separatism and resist any attempt that appears to threaten their power base. There is an inversion of values where the need for responsive institutions (e.g. flexibility in government delivery systems) is subverted to the maintenance of political/organization power by professional specialists.

But despite this severe constraint, the concept that organization is a strategy is slowly evolving. For the government professional this will mean that his focus will not be on "doing," per se but seeing that his profession's objectives are achieved by the most effective and economic means possible. Direct execution of an activity would be a last resort for an organization brought to bear only when all other strategies for goal achievement have failed.

For a government professional, his "structure" (organization box)

is the home base from which he receives professional sustenance (much like the "home room" in the high school which serves as the student's base of operations). The majority of the day is spent becoming involved with a wide variety of community professions and institutions utilizing a number of strategies to achieve his professions's objectives.

The budget has a dimension by which a program leader operates as a strategist. In the preparation of the budget, the strategist attempts to influence values in a community, shifting inputs (expenditures) to affect the outputs (community goals). Rather than a rigid PPB classification system, the organization strategist continually cross-classifies his activities and expenditures to meet community goals as they change. This year, the primary community concern could be law and order; next year it may be health and physical fitness; the following year...ecology.

Each government professional should justify his agencies' activities in terms of their ability to meet community/national goals, e.g. health, public safety, environmental beautification, culture, physical fitness, human relations, employment, racial integration, family counseling, skill development, drug abuse.

Examples for Park & Recreation*

ORGANIZATIONAL STRATEGIES

Volunteers
Neighborhood workers
Guidance/Counselling/Training
Information Services
Liaison: Commercial/Private/Volunteer "Rec."
Adoptions: Businesses/Colleges/Armed Forces
Industrial Leisure Programming

Environmental Stimuli Bombardment

Twenty-four hours a day, every day of the week, every minute of the hour,

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*Note: For the reader wishing to pursue this subject, he is referred to the March, 1971 issue of Parks & Recreation for an article by Joseph Curtis on community recreation as a strategy. The article is entitled "Boston '71."

a community is bombarded with stimuli, most of which require some reaction time by societal institutions: Many of the stimuli can be anticipated and reaction patterns set up in advance. (e.g. when a fire is detected, institutional responses are fairly fixed in advance and the proper reaction takes place). Other stimuli can be anticipated to the extent that they never occur because of the anticipation-preparation activities. (e.g. as a result of fire inspection, several potential fires are eliminated and the fire response activities never have to be energized).

However, because of our rapidly changing complex society, and inefficient stimuli-communication systems, most stimuli never get to have ANY impact on our institutional action or reaction response patterns. A known weakness in a building structure is unknown to firefighters who die as a result of a fire in a wall collapse during firefighting procedures. A policeman shot by a dangerous criminal in a stolen car because the ability to communicate that fact took 5 minutes rather than 5 seconds. A major industry leaves a community despite the fact that there are signs that the industry is beginning to weaken in its economic strength and the seeds of moving out begin 5 years before the decision to move is actually made (e.g. data that could be understood as the beginning of the business's end in the community are available to professionals immediately, but go undetected because of the ineffective data communications system based on 20th century technologies). A child dies in a community and a school census-taker asks the mother 7 months later "why isn't your child in school?" Cars wait in line at a red stoplight while no traffic is coming, because our traffic control systems are based on estimates--not actual environmental stimuli. Let the motorist wait, the community economy suffer, the policeman be shot...seems to be the typical bureaucratic response, but there is in such unconscious laissez-faire treatment a definite cost to

the individual and to the health of the community.

The point is very simple. Environmental stimuli are relentless in their increasing volume, complexity of form, and incessant bombardment rates. Because of this, our governmental communication and response capabilities are, in short, inefficient, uneconomical, ineffective, and grossly unresponsive. One of the starting bases for the effective use of the computer for government is the recognition that this fact should not be tolerated in a modern, intelligent society with ultra-modern communication capabilities.

Example for Park & Recreation

ENVIRONMENTAL STIMULI

People: Interest/Needs
Community Needs
Changes: Population/Structures
Changes: Land Use/Commercial
New Residents
Retired Citizens
Asocietal Behavior

Community Needs and Resources

It goes without saying that human beings, corporate structures, and physical environment have specific needs that societal institutions are designed to meet. Government professionals recognize this dimension of their work and differ only in their perception of the nature of these needs. With these differences, one can have no argument. Societal institutions are devised to conflict in order to crystallize the priorities of needs.

However, what can be argued with and is not apparent by most government professionals is the fact that the individual citizens or corporate entities in a community, in addition to having needs, are also precious resources. A retired person represents a talent and resource which, if tapped correctly, could be used by the community. A company with spacious grounds, adequate

recreational facilities and office equipment lies untapped as a community resource for 100 out of a total of 168 hours available each week. Adam Yarmolisky pointed out that most communities have a vast reservoir of unstructured, usually unidentified resources, that lie unused. The loss is two-fold: to the community that could benefit from this resource and to the individual who could find great psychic rewards by contributing his talents.

This base of community resources is fundamental to the total thrust of our efforts to more effectively use computer technology for the improvement of the quality and life style of individuals and to fulfill the purposes of government as identified in the 2002 model.

Examples for Parks & Recreation

COMMUNITY NEEDS	COMMUNITY RESOURCES
Leisure Opportunities & Enjoyment	Community/Area Talents
Skill Development	Community/Area Facilities
Community Building	(Public & Private)
Health/Physical Fitness	Potential Investment Capital
Individual & Group Tensions	
Cultural Growth	
Social Services	

INTERGOVERNMENTAL & PRIVATE INSTITUTIONAL

RESOURCES & RESPONSES

This element is widely appreciated as a base of government operations. However, what is not recognized is the necessity for technology to rationalize the complex kaleidoscope of resources and responses that our governmental and private institutions maintain. Even professionals in specific fields--housing, welfare, health--cannot identify ALL of the community's resources and responses that should be matched against the individual and collective needs of a community. Yet, every government professional should have at his fingertips answers to the type and nature of resources and responses available for each specific societal need situation. Some institutions (e.g. state cultural arts agency) may have the function of identifying and structuring the resources and

responses so that any community institution or individual can quickly match what is available with what is desired or needed. Thus, this base of government operations goes beyond mere rationalization (codification, identification, classification and communication) of societal institutional resources and responses. It points to a cooperative effort among institutions so that some may have the role of data exchanges or data support to others who must energize strategies for the achievement of societal goals.

This particular base for government automation is complex because of the proliferation of public and community institutions that now become involved in every aspect of government operations. For example, rebuilding a gasoline station in a development which is located on a state highway, less than 200 feet from a church and on the bank of a small river stream requires the cooperation and approval of: 4 municipal politically appointed commissions, 6 different municipal professionals, 3 state agencies, 2 federal agencies, 4 commercial companies, 3 community organizations, unknown numbers of planning agencies and unknown numbers of citizen-action groups. Even when all agree that rebuilding the station is important and desirable for a community, the process takes years and countless reams of paper before it is built.

The flow of data within a jurisdiction, between jurisdictions and between levels of government points to the necessity of recognizing the incremental growth of the building blocks in an interlocked, multi-jurisdictional, multi-directional data processing system.

Examples for Parks & Recreation

INTERGOVERNMENTAL/PRIVATE RESOURCES-RESPONSES

Private/Public/Commercial Facilities, Programs, Subsidies

Talent Resources (professional & Volunteer)
Unused Commercial Facilities
Statewide Resources Bank: talents, facilities, programs*
Statewide Housekeeping Support: Purchasing Specifications

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* A state government computer-based system, available both to professionals and citizens, should provide up to date data on existing recreation & cultural programs, talents and facilities and thus provide a reservation system much like airline or hotel companies.